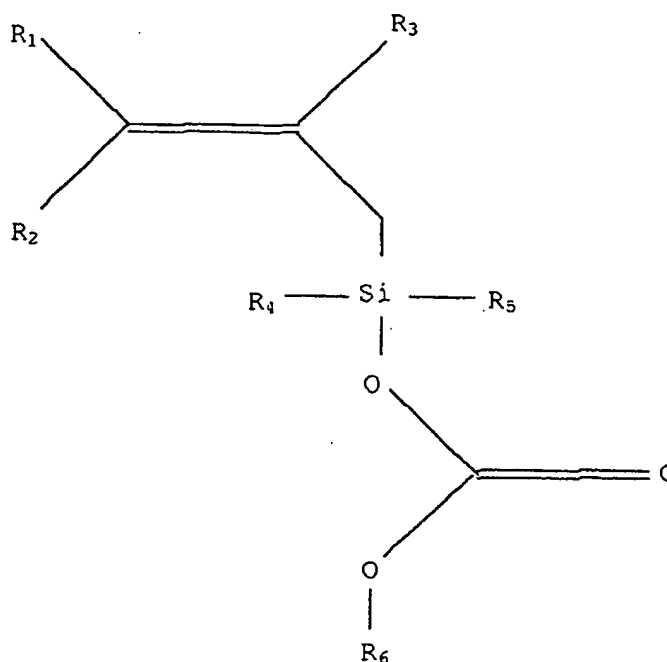


ART 34 AMDT

1. A polymerizable composition for the production of a resist, comprising at least one unsaturated, polymerizable monomer having at least one silicon atom and at least one carbonyl group, a monomer being characterized by the following general formula (I):



10 in which the meanings are as follows:

R₁, R₂, R₃: H or alkyl radicals, in particular methyl radicals,

15 R₄, R₅ : alkyl radicals, in particular methyl radicals, further silicon units, e.g. siloxanes

R₆ : alkyl radical, in particular tert-butyl radical,

20 it being possible for R₁, R₂, R₃, R₄, R₅, R₆ to be identical or different.

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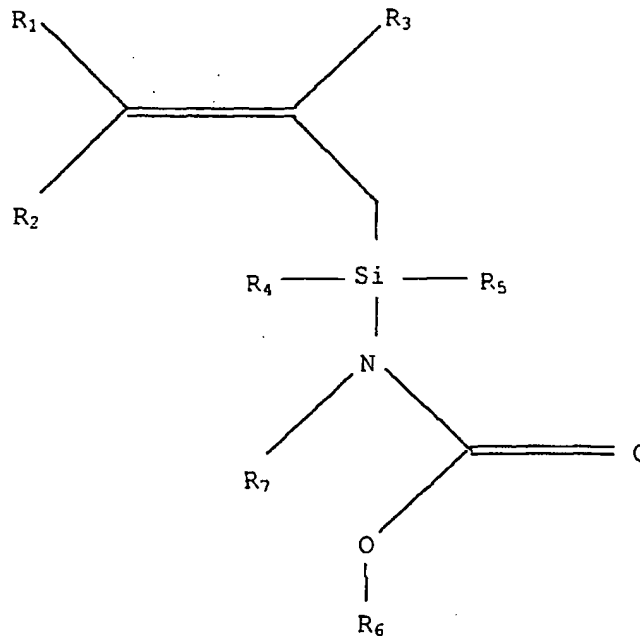
New patent claims
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- 5 2. A polymerizable composition for the production of
a resist, comprising at least one unsaturated,
polymerizable monomer having at least one silicon
atom and at least one carbonyl group, a monomer
being characterized by

the following general formula (II)



5 in which the meanings are as follows:

- R₁, R₂, R₃: H or alkyl radicals, in particular methyl radicals,
- 10 R₄, R₅ : alkyl radicals, in particular methyl radicals, silicon units, e.g. siloxanes
- R₆ : alkyl radical, in particular tert-butyl radical,
- 15 R₇ : H or alkyl radical, in particular methyl radical,

it being possible for R₁, R₂, R₃, R₄, R₅, R₆, R₇ to be identical or different.

- 20 3. The polymerizable composition as claimed in at least one of claims 1 or 2, **characterized in that**

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at least one alkyl radical has a chain length of C₁
to C₈.

- 5 4. The polymerizable composition as claimed in at
least one of the preceding claims, **characterized**
in that

monomers as claimed in claim 1, 2 and/or other monomers, in particular maleic anhydride, styrene, p-hydroxystyrene or methacrylic acid, are present for the polymerization.

5

5. A polymer **prepared by** polymerization of at least one of the compositions as claimed in any of claims 1 to 4.

10

6. A resist **characterized by** a content of from 2 to 30% of polymer as claimed in claim 5, a content of from 70 to 98% of solvent and a content of from 0.1 to 10% of photo acid generator.

15

7. The resist as claimed in claim 6, **characterized by** a content of methoxypropyl acetate, ethyl acetate, ethyl lactate, cyclohexanone, gamma-butyrolactone and/or methyl ethyl ketone as a solvent.

20

8. The resist as claimed in claim 6 or 7, **characterized by** a content of Crivello salt, diphenylsulfonium sulfonate, diphenyliodonium sulfate, phthalimidosulfonate and/or ortho-nitrobenzylsulfonate as a photo acid generator.

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9. The resist as claimed in at least one of claims 6 to 8 for use in an electron beam recording process.

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10. A lithography process for the production of a structure on a substrate, in particular of a structure for a lithography mask for the production of semiconductor components, **characterized in that** a resist as claimed in any of claims 6 to 8 is used.

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11. The lithography process as claimed in claim 9,
characterized in that

a) a mask blank is coated with a resist as claimed
in claim 8,

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- 5 b) the resist is recorded on by means of a laser
 and/or electron beam recorder,
- c) the structure produced by the recording in the
 resist is developed,
- d) the mask blank is dry-etched.
- 10 12. The lithography process as claimed in claim 9 or
 10, **characterized in that** a heating step is
 carried out after recording on the resist.
- 15 13. The lithography process as claimed in at least one
 of claims 9 to 11, **characterized in that** the
 development is effected with an aqueous alkaline
 developer, in particular a 2.38% strength aqueous
 tetramethylammonium hydroxide solution or a TMAH
 developer.